



Fit Facts Injury Prevention



Introduction

One of the hazards of physical training is becoming injured. Sustaining either a sudden injury or an overuse injury can mean loss of workdays, forced rest, and pain for a period of days to weeks.

Warming up before exercise is the best way to reduce the risk of injury. Cold joints, tendons and muscles are more likely to get strained or sprained by sudden movement or exertion. In normal conditions, a five to 10 minute warm up is all you'll need - add a few extra minutes in colder weather. Concentrate on warming up the specific muscle groups you will be using in your exercise and include stretches. Cooling down after exercise is also an important injury prevention strategy. Your physiotherapist can help you devise warm up and cool down routines appropriate to your sport.

Proper stretching increases flexibility, complements both strength and aerobic exercises, and leads to:

- Reduced muscle soreness after exercise
- Lower risk for injury.
- Mental and physical preparation for exercise or competition.
- Enhanced muscle performance through a larger, functional range of motion.

What are some stretching suggestions?

- Stretching should be part of both your warm up and cool down routines. Suggestions include:
 - Stretch your muscles after your warm up exercises.
 - Only stretch a muscle to the point of mild discomfort. If it hurts, you're pushing too hard - ease off.
 - Don't bounce. Instead, hold the stretch for around 10 to 30 seconds.
 - Stretch opposing muscle groups one after the other. For example, stretch your quadriceps (muscles on the front of the thigh) then stretch the hamstrings (muscles on the back of the thigh).
- Remember to keep breathing normally as you stretch.

Other suggestions for Injury Prevention include:

- Don't exercise or perform beyond your physical capabilities.
- Take into consideration that equipment may need to be adapted to your needs - for example, bike pedals, gym equipment and skiing equipment. Always wear protective equipment particular to your sport - for example, helmets, elbow and knee guards, and mouth guards.

- Avoid heavy exertion in extreme heat as it can lead to heat exhaustion or heat stroke.
- Use tape or bandages to brace vulnerable joints and prevent them from slipping beyond their comfortable range of motion.
- Consider having a massage after your cool down to promote muscle flexibility.
- Ensure you have enough rest and recovery days.

How will I know if I am overtraining?

Overtraining can negatively affect physical and mental performance. Moreover, it can increase the likelihood of sustaining an injury. Overtraining is exactly what the word implies: too much physical activity. The over-training syndrome can present with a wide range of symptoms. Over-training is generally associated with endurance sports, such as swimming or running. Cross training, rest, and taking time off from certain physical activities will all reduce or prevent over training symptoms. The person who continues training despite the symptoms will only become more over-trained, continue to have decreases in performance, and will be at an increased risk for injury.

Symptoms of Overtraining Syndrome

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| • Decreased performance. | • Muscle soreness |
| • Feeling "burned-out" or stale | • Disturbances in mood |
| • Difficulty making decisions | • Increased distractibility |
| • Difficulty concentrating | • Feeling depressed |
| • Chronically fatigued | • Difficulty sleeping |
| • Angry and irritable | • Increased morning heart rate |
| • Lacking motivation | |

Things to remember:

1. Cold joints, tendons and muscles are more likely to get strained or sprained by sudden movement or exertion.
2. Warming up before exercise is the best way to reduce the risk of injury.
3. Concentrate on warming up the specific muscle groups you will be using in your exercise and include stretches.
4. It is important to cool down after exercise to further reduce the risk of injury

For more information on this and other health and wellness topics, visit Navy Knowledge Online (NKO) at <http://www.nko.navy.mil> or the Navy Environmental Health Center (NEHC) at <http://www.nehc.med.navy.mil/hp>.